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EXAMINER

BRIGGS, NATHANAEL R

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2871

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/573,082	Applicant(s) IJZERMAN ET AL.	
	Examiner NATHANAEL R. BRIGGS	Art Unit 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) 18-48 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-17 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1-5, 8, and 10-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamagishi et al. (US 5,751,479) in view of Ichikawa (US 6,466,285), and in further view of Creemers et al. (US 2003/0081156).**

4. Regarding claim 1, Hamagishi discloses a multi-view display configured to display two or more views directed to two or more respective viewing zones (right, left), comprising (see figure 10, for instance): a display panel (20), comprising a plurality of imaging units (20R,G,B), and a plurality of color filters (30R,G,B), wherein each of said color filters is associated with one of said imaging units, the color filters (30) being arranged according to a first pitch and in a first sequence of colors; and a barrier (3) including a plurality of color portions (3R,G,B) comprising color filter material, the color portions being arranged according to a second pitch that is a little larger than twice the first pitch and in a second sequence of colors that corresponds to the first sequence of colors when reversed in order (see figure 10), wherein the barrier (3) is positioned so

Art Unit: 2871

that light (from an external source) exits the display panel (20) after passing through one of the color portions and one of said color filters and the color portions of the barrier (3) are configured to cooperate with the color filters to selectively direct said light passing to the first and second viewing zones (see figure 10). However, Hamagishi does not expressly disclose wherein a second pitch that is substantially equal to twice the first pitch, or wherein translucent spectra of the plurality of color filters of the display panel are prevented from overlapping translucent spectra of the plurality of color portions of the barrier.

5. Regarding claim 1, Ichikawa discloses a multi-view display configured to display two or more views directed to two or more respective viewing zones (right, left), comprising (see figure 12A-C, for instance): a display panel (25), comprising a plurality of imaging units (26), and a plurality of color filters (R,G,B), and a barrier (22) including a plurality of color portions (R,G,B), the color portions being arranged according to a second pitch that is substantially equal to twice the first pitch (see column 12, lines 63-67).

6. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the pitch lengths of the color portions of Ichikawa in the display of Hamagishi. The motivation for doing so would have been to obviate deterioration of brightness and chromaticity, as taught by Ichikawa (column 3, lines 51-56).

7. Regarding claim 1, Creemers discloses a display panel, comprising (see figures 1-2, for instance): wherein translucent spectra of the plurality of color filters (21) of the

Art Unit: 2871

display panel are prevented from overlapping translucent spectra of the plurality of color portions of the barrier (22).

8. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the non-overlapping translucent spectra of Creemers in the display of Hamagishi. The motivation for doing so would have been to reduce distorted color reproduction at oblique angles of incidence, as taught by Creemers ([0010]). Claim 1 is therefore unpatentable.

9. Regarding claim 2, Hamagishi in view of Ichikawa and in further view of Creemers discloses a multi-view display according to claim 1 (see Hamagishi figure 10, Ichikawa figures 12A-C, for instance), arranged so that said light (from an external source) passes through one of said color filters (3) before passing through said one color portion (30). Claim 2 is therefore unpatentable.

10. Regarding claim 3, Hamagishi in view of Ichikawa and in further view of Creemers discloses a multi-view display according to claim 1 (see Hamagishi figure 10, Ichikawa figures 12A-C, for instance), arranged so that said light passes through said one color portion (30) before passing through one of said color filters (3). Claim 3 is therefore unpatentable.

11. Regarding claim 4, Hamagishi in view of Ichikawa and in further view of Creemers discloses a multi-view display according to claim 1 (see Hamagishi figure 10, Ichikawa figures 12A-C, for instance), wherein the color filter material of the color portions (30) is a cholesteric filter material. Claim 4 is therefore unpatentable.

Art Unit: 2871

12. Regarding claim 5, Hamagishi in view of Ichikawa and in further view of Creemers discloses a multi-view display according to claim 1 (see Hamagishi figure 10, Ichikawa figures 12A-C, for instance), comprising a light source (2) arranged to illuminate the imaging units (20R,G,B) of the display panel (20). Claim 5 is therefore unpatentable.

13. Regarding claim 8, Hamagishi in view of Ichikawa and in further view of Creemers discloses a multi-view display according to claim 1 (see Hamagishi figure 10, Ichikawa figures 12A-C, for instance), wherein the plurality of color filters (30R,G,B) are separated from one another by a black matrix (column 9, lines 1-4). Claim 8 is therefore unpatentable.

14. Regarding claim 10, Hamagishi in view of Ichikawa and in further view of Creemers discloses a multi-view display according to claim 1 (see Hamagishi figure 10, Ichikawa figures 12A-C, for instance), wherein the color portions (3) of the barrier (3) and the color filters (30) are aligned so that the light exiting the display panel (20) produces viewing zones (see figure 10) that are asymmetrically arranged. Claim 10 is therefore unpatentable.

15. Regarding claim 11, Hamagishi in view of Ichikawa and in further view of Creemers discloses a multi-view display according to claim 1 (see Hamagishi figure 10, Ichikawa figures 12A-C, for instance), and Ichikawa further discloses wherein said light source comprises a plurality of light emitting diodes (LED), wherein at least two of said light emitting diodes are configured to emit light of first and second colors respectively (column 9, lines 36-45). Claim 11 is therefore unpatentable.

Art Unit: 2871

16. Regarding claim 12, Hamagishi in view of Ichikawa and in further view of Creemers discloses a multi-view display according to claim 1 (see Hamagishi figure 10, Ichikawa figures 12A-C, for instance), wherein said imaging units (20) are light emissive devices. Claim 12 is therefore unpatentable.

17. Regarding claim 13, Hamagishi in view of Ichikawa and in further view of Creemers and in further view of Creemers discloses a multi-view display according to claim 1 (see Hamagishi figure 10, Ichikawa figures 12A-C, for instance), and Ichikawa discloses audio output means arranged to output audio signals corresponding to the information displayed in one or more of said viewing zones (column 8, lines 65-67). Claim 13 is therefore unpatentable.

18. Regarding claim 14, Hamagishi in view of Ichikawa and in further view of Creemers discloses a multi-view display according to claims 1 and 13 (see Hamagishi figure 10, Ichikawa figures 12A-C, for instance), and Ichikawa further discloses the display arranged to display information in an automotive vehicle (column 9, lines 60-61). Claim 14 is therefore unpatentable.

19. Regarding claim 15, Hamagishi in view of Ichikawa and in further view of Creemers discloses a multi-view display according to claims 1, 13, and 14 (see Hamagishi figure 10, Ichikawa figures 12A-C, for instance), to display different information in different ones of said viewing zones (left, right). Claim 15 is therefore unpatentable.

20. Claims 6-7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamagishi et al. (US 5,751,479) in view of Ichikawa (US 6,466,285), and in

Art Unit: 2871

further view of Creemers et al. (US 2003/0081156), as applied to claim 1 above, and further in view of Moon et al. (US 6,597,418).

21. Regarding claims 67 and 9, Hamagishi in view of Ichikawa and in further view of Creemers discloses a multi-view display according to claim 1 (see Hamagishi figure 10, Ichikawa figures 12A-C, for instance). However, Hamagishi in view of Ichikawa and in further view of Creemers does not expressly disclose wherein the barrier is spaced from the color filters by a separation interval that is less than $p/0.0781$, where p is the first pitch, wherein the color portions of said barrier are separated from one another by a black matrix, or wherein the barrier is spaced from the color filters by a separation interval that is less than 0.35 mm.

22. Regarding claims 6-7 and 9, Moon discloses a multi-view display (see figure 6, for instance) wherein the barrier (46b) is spaced from the color filters (46a) by a separation interval that is less than $p/0.0781$ (since they are directly contacted), where p is the first pitch, wherein the color portions of said barrier are separated from one another by a black matrix (44), and wherein the barrier (46b) is spaced from the color filters (46a) by a separation interval that is less than 0.35 mm (since they are directly contacted).

23. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the separation intervals and black matrix of Moon in the display of Hamagishi. The motivation for doing so would have been to improve light efficiency, as taught by Moon (column 2, lines 28-30). Claims 6-7 and 9 are therefore unpatentable.

Art Unit: 2871

24. Claims 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamagishi et al. (US 5,751,479) in view of Ichikawa (US 6,466,285), and in further view of Creemers et al. (US 2003/0081156), as applied to claims 2-3 above, and further in view of Yoon et al. (US 2004/0032556).

25. Regarding claims 16-17, Hamagishi in view of Ichikawa and in further view of Creemers discloses a method of manufacturing a multi-view display according to claims 2 and 3 (see Hamagishi figure 10, Ichikawa figures 12A-C, for instance). However, Hamagishi in view of Ichikawa and in further view of Creemers does not expressly disclose steps comprising: providing said plurality of color portions on a light transmissive substrate; placing a sheet of light transmissive material over said plurality of color portions; and providing the plurality of color of the display panel on said sheet of light transmissive material, or a step comprising: providing said plurality of color portions on a light transmissive substrate; placing a sheet of light transmissive material over said plurality of color portions; and providing means configured to control said imaging units on said sheet of light transmissive material.

26. Regarding claims 16-17, Yoon discloses a method of manufacturing a multi-view display according to claims 2 and 3 (see figure 4, for instance) comprising: providing said plurality of color portions (116) on a light transmissive substrate (112); placing a sheet of light transmissive material (118) over said plurality of color portions; and providing the plurality of color filters (120) of the display panel (150) on said sheet of light transmissive material (118), and a step comprising: providing said plurality of color portions (116) on a light transmissive substrate (112); placing a sheet of light

Art Unit: 2871

transmissive material (118) over said plurality of color portions; and providing means configured to control said imaging units ([0045]) on said sheet of light transmissive material (118).

27. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the light transmissive materials and structure of color portions of Yoon in the display of Hamagishi. The motivation for doing so would have been to improve brightness and color display, as taught by Yoon ([0024]). Claims 16-17 are therefore unpatentable.

Conclusion

28. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 2871

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NATHANAEL R. BRIGGS whose telephone number is (571)272-8992. The examiner can normally be reached on 9 AM - 5:30 PM Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Nathanael R Briggs/
Examiner, Art Unit 2871
11/4/10

/David Nelms/
Supervisory Patent Examiner, Art Unit 2871